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(54) Title: A METHOD FOR FACILITATING THE INTRODUCTION OF NEW SERVICES IN A TELECOMMUNICATIONS SYSTEM		
(57) Abstract		
<p>The present invention provides a system architecture, adapted to facilitate the provision of services to mobile telephone subscribers, which simplifies the introduction of new services. This system architecture permits subscribers to control the personalisation of the services which they use. Furthermore, since the system architecture permits a subscriber to modify the personalisation of services using a PC operating over, for example, the Internet, this architecture reduces the use of radio resource. The telecommunications system includes a telecommunications operator's server, a plurality of mobile transceivers, at least one service provider's server, data storage means and a plurality of subscriber's PCs. Each of said plurality of PCs is adapted to communicate with said operator server, as are the service provider's server and the mobile transceivers. The storage means contains a service data base and a database of services personalised by subscribers and is adapted to communicate with said operator's server. The subscriber's PCs may communicate with the operator's server over the Internet.</p>		

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A METHOD FOR FACILITATING THE INTRODUCTION OF NEW SERVICES IN A TELECOMMUNICATIONS SYSTEM

5 The present invention relates to a telecommunications system adapted to facilitate the introduction of new services and permit subscribers to personalise the services they use, a service platform for use with the system, subscriber terminals for personalising the system, subscriber transceivers for use with the system and methods of operating the system.

10 The present invention provides a system architecture, adapted to facilitate the provision of services to mobile telephone subscribers, which simplifies the introduction of new services. This system architecture permits subscribers to control the personalisation of the services which they use. Furthermore, since the system architecture permits a subscriber to modify the personalisation of services
15 using a PC operating over, for example, the Internet, this architecture reduces the use of radio resource.

20 At the present time, there are relatively few data services which can be used from a mobile telephone despite the fact that there should be a major potential for different companies to provide existing telephony services. Such companies would certainly like to offer their services via mobile telephones to, for example, Telia Mobile subscribers. If there were a simple way of introducing new and user-friendly services to Telia Mobile customers, the market potential would be very large.

25 The following problems need to be solved in order to build up interest in mobile data services:

- 30 - there must be a rapid and simple procedure for the introduction of new services produced by both an operator and external companies (service providers);
- to enable an operator to handle a large volume of services simply, they must be handled in a unified manner, and it should be

possible for the service provider, who has produced a service, to be able to carry out maintenance on that service;

- it must be simple for an operator to administer and secure payment for the services he provides;
- an operator's customers should have the opportunity to personalise services themselves, including those offered by service providers, via an operator, i.e. create their own tailored services and user interfaces for these services;
- subscribers should not be tied to a specific terminal type in order to be able to use mobile services, i.e. subscribers should be able to access the same services independently of the terminal to which the subscriber currently has access;
- Cell Broadcast should be available as an important entry gate for mobile data services;
- mobile services must be adapted so that they utilise the available radio resources in an effective manner;
- it should be possible to rapidly distribute user interfaces, in the form of menus, to mobile telephones, so that it is possible to create more interactive and user-friendly services.

According to a first aspect of the present invention, there is provided a telecommunications system, adapted for providing value added services to mobile telephony subscribers, comprising a telecommunications operator's server, a plurality of mobile transceivers, at least one service provider's server and data storage means, characterised in that said system also includes a plurality of subscriber's PCs, in that each of said plurality of PCs is adapted to communicate with said operator server, in that said at least one service provider's server is adapted to communicate with said operator's server, in that each of said plurality

of mobile transceivers is adapted to communicate with said operator's server, and in that said storage means contains a service data base and is adapted to communicate with said operator's server.

5 Said storage means may contain, in addition to said service data base, a database of services personalised by subscribers.

Each of said plurality of PCs may be adapted to communicate with said at least one operator's server over the Internet.

10 Said system may include a plurality of service provider's servers each of which is adapted to communicate with said operator's server.

15 A service provider's server, offering a new value added service, may register that service with said operator's server by transmitting service description data describing that service to said operator's server, said service description data including a call address to be used by said operator's server when executing said service.

20 Said service description data may include one, or more, of the following data items:

- a page address to a page containing information on said service;
- 25 - a name for said service; and
- a user interface.

30 Said user interface may facilitate selection of parameters to be set when a service is executed.

Said user interface may be adapted to enable said operator's server to transmit information, defining input data required when a service is executed, to a mobile transceiver.

On receipt of information from a service provider's server relating to a new value added service, said operator's server may assign a unique identity to said new service.

Said operator's server may be adapted to store, in said service database, service description data transmitted by a service provider's server, on registration of a new value added service.

Said operator's server may be adapted to extract and compile parameter settings, made by a subscriber when personalising a value added service, and said operator's server may be adapted to store said settings in said database of services personalised by a subscriber.

Said operator's server may be adapted to receive the parameter settings made by a subscriber from a subscriber's PC.

Said operator's server may be adapted to receive data defining subscriber customised menus and menu structures, and store said menus and menu structures on said database of services personalised by a subscriber, and, on request for a service from a subscriber, said operator's server may be adapted to download menus and menu structures specific to said subscriber and said service.

Said operator's server may be adapted, on receipt of a call from a subscriber requesting a service, to request said subscriber to supply parameters required by said service and not previously stored on said database of services personalised by a subscriber.

Said operator's server may be adapted to use a service menu's identity, on receipt thereof, as a search word for searching said database of services personalised by a subscriber and extracting, therefrom, a service identity and parameters for that service previously set by a subscriber.

Said operator's server may be adapted to use said service identity to

retrieve an address for said service from said service database and make a service call to said address for service containing values for service parameters held in said storage means together with values of service parameters entered by a subscriber on a mobile transceiver's keypad.

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Said operator's server may be adapted to distribute service menus via a cell broadcast so that services relating to a mobile transceiver's position can be offered.

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All requests for value added services made to said operator's server may cause said service database to be accessed, thereby providing a basis for charging for provision of said value added services.

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According to a second aspect of the present invention, there is provided a telecommunications service platform for the provision of value added services to mobile transceivers suitable for use with a telecommunications system as set forth in any preceding paragraph, characterised in that there is provided a telecommunications operator's server adapted to operate connections to:

20

- a plurality of mobile transceivers;
- at least one service provider's server;
- a data storage means; and
- a plurality of subscriber's PCs;

25

and in that said storage means contains a service data base and a database of services personalised by subscribers.

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According to a third aspect of the present invention, there is provided a subscriber's PC, characterised in that said PC is adapted to operate within a telecommunications system as set forth in any preceding paragraph and adapted to personalise services offered by said telecommunications system.

5 According to a fourth aspect of the present invention, there is provided a mobile transceiver, characterised in that said mobile transceiver is adopted to operate with a telecommunications system as set forth in any preceding paragraph.

10 According to a fifth aspect of the present invention, there is provided a method of operating a telecommunications system providing value added services to mobile telephony subscribers, said telecommunications system comprising a telecommunications operator's server, a plurality of mobile transceivers, at least one service provider's server and data storage means, characterised by said system also including a plurality of subscriber's PCs individually communicating with said operator's server, by said at least one service provider's server individually communicating with said operator's server, by said plurality of mobile transceivers individually communicating with said operator's server, and by said storage means having a service data base.

15 Data relating to subscriber personalised services may be stored in said storage means as a database of services personalised by subscribers.

20 Said plurality of PCs may individually communicate with said operator's server over the Internet.

25 Said plurality of service provider's servers may individually communicate with said operator's server.

30 A service provider's server, offering a new value added service, may register that service with said operator's server by transmitting service description data, describing that service, to said operator's server, said service description data including a call address to be used by said operator's server when executing said service.

Said service description data may include one, or more, of the following data items:

- a page address to a page containing information on said service;
- a name for said service; and
- a user interface.

Said user interface may facilitate selection of parameters to be set when a service is executed.

Said user interface may enable said operator's server to transmit information, on input data required when a service is executed, to a mobile transceiver.

On receipt of information from a service provider's server relating to a new value added service, said operator's server may assign a unique identity to said new service.

Service description data transmitted by a service provider's server may be stored, on registration of a new value added service, in said service database.

Said operator's server may extract and compile parameter settings made by a subscriber when personalising a value added service and may store said settings in said database of services personalised by a subscriber.

Parameter settings made by a subscriber to said operator's server may be transmitted from a subscriber's PC.

Said operator's server may, on receiving data defining subscriber customised menus and menu structures, store said menus and menu structures on said database of services personalised by a subscriber, and, on request for a service from a subscriber, said operator's server may download menus and menu structures specific to said subscriber and said service.

Said operator's server may, on receipt of a call from a subscriber requesting a service, request said subscriber to supply parameters required by said service and not previously stored on said database of services personalised by a subscriber.

Said operator's server may use a service menu's identity, on receipt thereof, as a search word for searching said database of services personalised by a subscriber and extracting, therefrom, a service identity and parameters for that service previously set by a subscriber.

Said operator's server may use said service identity to retrieve an address for said service from said service database and make a service call to said address for service, said service call containing values for service parameters held in said storage means together with values of service parameters entered by a subscriber on a mobile transceiver's keypad.

Said operator's server may distribute service menus via a cell broadcast so that services relating to a mobile transceiver's position can be offered.

All requests for value added services made to said operator's server may cause said service database to be accessed, thereby providing a basis for charging for provision of said value added services.

Embodiments of the invention will now be described, by way of example, with reference to the accompanying drawing, in which:

Figure 1 illustrates a telecommunications system, according to the present invention, in block schematic form.

The present invention is a system architecture which provides a system solution to the following requirements:

- the need for a rapid and simple procedure for the introduction of new services (value added services) produced by both an operator

and external companies (service providers);

- the ability for an operator to handle a large volume of services simply, in a unified manner;
- the need for a service provider, who has produced a service, to be able to carry out maintenance on that service;
- simple administration and secure payment for the services provided by an operator;
- an operator's customers should have the opportunity to personalise services, including those offered by service providers via an operator, themselves, i.e. create their own tailored services and user interfaces for these services;
- subscribers should not be tied to a specific terminal type in order to be able to use the mobile services, i.e. subscribers should be able to access the same services independently of the terminal to which the subscriber currently has access;
- Cell Broadcast should be available as an important entry gate for mobile data services;
- mobile services must be adapted so that they utilise the available radio resources in an effective manner;
- rapid distribution of user interfaces, in the form of menus, to mobile telephones, so that it is possible to create more interactive and user-friendly services.

The system solution of the present invention is based on the combination of four inventive concepts, namely:

- 5
1. The inventive concept described in our co-pending patent application (Kgp 93/98), relating to the effective updating of service logic in mobile telephones. This patent application describes how menu-based services can be downloaded in the form of a data structure instead of downloading an executable code. This makes it practical to distribute menu-based services to a mobile telephone in an effective manner.
- 10
2. The inventive concept described in our co-pending patent application (Kgp 31/99), relating to implicitly referred services. This patent application is concerned with an extension of the principle described in our co-pending application (Kgp 93/98), which further streamlines downloading of menu-based services to mobile telephones. This invention is, moreover, not based on calling a service from a mobile telephone directly, but sending a message to a function in the network, a service node, containing a reference to a particular service. In this way, it is possible to simplify a service call from a mobile telephone and then add necessary information in the service node. Use of this method also makes it possible to reduce the information which needs to be sent from the mobile telephone to the network, i.e. the use made of scarce radio resource.
- 15
- 20
- 25
3. The inventive concept described in our co-pending patent application (Kgp 32/99) which relates to subscriber controlled personalisation of mobile services. This invention describes how:
- 30
- a subscriber can tailor calls to different services by using an Internet-connected PC to enter values for the parameters to be included when a service is called;
 - a subscriber is given an opportunity to decide the parameters to be entered, via the mobile telephone keypad,

when the parameters are called (The parameters for which a subscriber gives no values, via the Internet, must be given a value by him/her on the mobile telephone. In this way, it is possible both to save radio resources and, moreover, give the user an opportunity to minimise the number of keys which have to be pressed in order to call a service from the mobile telephone);

- a subscriber is able to create his, or her, own menu structure via an Internet-connected PC, which can then be downloaded to the mobile telephone, see inventive concept (1) above, and with whose help services from different service providers can be called.

4. The inventive concept described in our co-pending patent application (Kgp 33/98), which relates to effective registration and provision of new mobile services. This invention describes:

- how a service provider can register a new service with an operator, which implies that the service provider sends information on the service in a specific format;

- how a service executed with a service provider is called by a subscriber via an operator;

- a method for defining how the interface to different services can be described; and

- opportunities for charging and administration of services.

The fundamental idea behind the present invention is based on the creation of a system solution which facilitates handling of mobile services for subscribers (mobile telephone customers), operator, and service provider (the

party who has created and executes the service), alike.

Figure 1, shows an overall schematic view of a system according to the present invention. A telecommunications operator's server 12, can be connected to:

- a subscribers PC, 10;
- a service server, 11, responsible for the provision of service "A" and holding information on service "A";
- a service server, 14, responsible for the provision of service "B" and holding information on service "B";
- a service database 13;
- a database containing details of personalised services, 16; and
- a subscriber terminal, 15.

In addition, Figure 1 shows the following processes which can be performed by the system:

- registration of service A, indicated by operating process 1;
- registration of service B, indicated by operating process 1;
- saving service information, indicated by operating process 2;
- retrieving information for personalisation, indicated by operating process 3;
- a subscriber personalising services from the service database, indicated by operating process 3;

- saving personalisation data, indicated by operating process 4;
- downloading a service menu to a mobile terminal, indicated by operating process 5;
- uploading a service reference and input parameters, indicated by operating process 6;
- retrieving personalisation data and service identity, indicated by operating process 7;
- retrieving a call address for a service, indicated by operating process 8; and
- service calls, i.e. requesting input parameters, indicated by operating process 9.

The system can, of course, cater for many subscribers, although only a single subscriber connection is illustrated in Figure 1, in the interests of simplicity in the description of the invention. Furthermore, the system has the ability to handle more than two services, although Figure 1 only shows provision for two services in the interests of simplicity in the description of the invention. It should be noted that not all subscribers may have PCs, so that the number of subscriber terminals 15, may not be the same as the number of PCs 10.

Registration of service "A", with the operator's server, is achieved by operating process 1, between the service server 11 and the operator's server 12. Service calls, i.e. calls originating from a subscriber containing input parameters, are routed from the operator's server 12 to the service server 11, using process 9. Registration of service "B" and service calls are implemented in an analogous manner to that for service "A", except that process 1 connects the service server 14 to operator's server 12 and process 9 connects the operator's server 12, to service server 14.

5 A subscriber can personalise a service to suit his own needs by inputting service parameters from a PC 10 to the service database 13 and the database for personalised services 16, via the operator's server 12, by means of an Internet link
operating process 3, between PC 10 and the operator's server 12. Process 2 links
the operator's server 12 to the service database and represents the saving of
service information on the service database 13. Process 3, operating between the
operator's server 12 and the service database 13 represents a subscriber
personalising services extracted from the service database, i.e. a call routing from
10 PC 10 to service database 13, whereby information stored in the service database
can be accessed from PC 10. Once a service has been personalised, the
necessary parameters relating to the personalised service are downloaded, via the
operator's server 12 to the database for personalised services 16. This process is
represented by 3 and 4.

15
When a subscriber wishes to access a particular personalised service from
his mobile terminal, 15, he sends his service reference and input parameters 6 to
the operator's server 12. The operator's server 12 retrieves the relevant
personalising data and service identity from database 16, and uses this data,
20 together with data contained on database 13, including the call address for the
service, to establish the requested service from either service server 11, or 14.
The appropriate service menu is then transmitted to the subscriber's mobile
terminal 15, represented by process 5.

25 A service provider, wishing to offer his services to an operator's
subscribers, see 1 on Figure 1, must transmit data describing the service, but
need not transmit the executable code for the service, for further details see our
co-pending application Kgp 33/98.

30 The following data must be transmitted to the operator when a service is
registered:

- a call address which the operator must use to have the service
executed;

- an address to an information page where the operator and his subscribers can gain an understanding of the type of service;
- 5 - the name of the service;
- a user interface intended to provide the operator and his subscribers with help in specifying the different values of the parameters to be entered when the service is being called and, moreover, to give the operator an opportunity to send mobile telephones information on the input data required when the service is being called.

10 Of the four foregoing types of data, the call address must be reported to the operator. The remaining three types of data are not an absolute requirement, but should be included to ensure that an effective system solution can be offered.

15 When an operator receives information that a new service is available from a service provider, see 1 on Figure 1, the operator gives the new service a unique identity. The operator then makes the service available, by entering the information the service provider has sent the operator on a service database. More detailed information on this process is given in our co-pending patent application Kgp 33/98.

20 If a user wishes to personalise a service, see 3 and 4 on Figure 1, he uses the user interface for setting the parameters of the service. To set the parameters, the operator must have available a function which can extract and compile the parameter settings which the subscriber has made via the user interface and save these as a personalised service in a database. More detailed information on how this takes place is given in our co-pending patent application Kgp 33/98.

25 To ensure that it is easy for a user to use the mobile services from a conventional mobile telephone, he may choose to create his own menu structures,

see 5 on Figure 1, where different menu choices are linked to the services he has personalised. These menu structures can then be downloaded to the mobile telephone using the technology described in our co-pending applications Kgp 93/98 and Kgp 31/99. Service providers and operators can also, self-evidently, use the same technology to create service menus which can be offered to a wider group of subscribers. For further details see our co-pending patent application Kgp 32/99.

A subscriber calls a service by making a menu choice, see 6 on Figure 1, or by, for example, sending an ordinary SMS (Short Message Service) message containing the name of the personalised service. In both cases, parameters must also be added where the personalised services so require. Further information on this can be found in our co-pending patent application Kgp 31/99.

If a message arrives containing the identity of a service menu and a menu choice reference, see 7 on Figure 1, it can be used as a search word in a database where personalised information is stored. The database call results in the service identity and the values of the service parameters, set when the service was personalised, being retrieved.

With the aid of the service identity, the address of the service can be retrieved from the service database. See 8 and 9 on Figure 1. The operator can then make a service call to this address. The service call contains both the values of the parameters stored with the operator and the values of the parameters entered by the subscriber via the mobile telephone keypad. Further information on how this takes place is given in our co-pending patent application Kgp 33/98.

In the same way as distribution of service menus can be directed to a specific subscriber, it is also possible to distribute service menus to a group of users e.g. via a Cell Broadcast. In this way, subscribers can be offered service menus related to their actual position. That is to say, a service menu with position-related services can be automatically updated depending on the cell in which a subscriber is located. These service menus can be produced in precisely the same way as a subscriber produces his own service menus.

5 Since an operator handles different types of services in a unified manner,
monitoring of services and service providers is also facilitated. The service
database is intended both for subscribers wanting to create their own personalised
services (it being possible to obtain statistics on the services subscribers have
studied and personalised) and for calling a service when a user, via his mobile
telephone, has referred to the service (if all calls to the service pass via one
database, which implies that there is a good charging basis for the used services).
10 More detailed information on how this takes place is given in our co-pending
patent application Kgp 33/98.

15 The present invention provides a general technology which can be used
when an operator wishes to offer services which another player, or service
provider, has produced. The technology is independent of the mobile telephony
system, GSM, UMTS, etc, the carrier service used in the mobile telephone system
to access the services, as well as terminal technology. The present invention is
based on a global view of the way in which mobile services are provided and used
and, consequently offers solutions that are facilitating for service providers,
operators, and mobile telephone customers alike.
20

CLAIMS

5 1. A telecommunications system, adapted for providing value added services to mobile telephony subscribers, comprising a telecommunications operator's server, a plurality of mobile transceivers, at least one service provider's server and data storage means, characterised in that said system also includes a plurality of subscriber's PCs, in that each of said plurality of PCs is adapted to communicate with said operator server, in that said at least one service provider's server is adapted to communicate with said operator's server, in that each of said plurality of mobile transceivers is adapted to communicate with said operator's server, and in that said storage means contains a service data base and is adapted to communicate with said operator's server.

10 2. A telecommunications system as claimed in claim 1, characterised in that said storage means contains, in addition to said service data base, a database of services personalised by subscribers.

15 3. A telecommunications system as claimed in either claim 1, or claim 2, characterised in that each of said plurality of PCs is adapted to communicate with said at least one operator's server over the Internet.

20 4. A telecommunications system as claimed in any preceding claim, characterised in that said system includes a plurality of service provider's servers each of which is adapted to communicate with said operator's server.

25 5. A telecommunications system as claimed in any preceding claim, characterised in that a service provider's server, offering a new value added service, registers that service with said operator's server by transmitting service description data describing that service to said operator's server, said service description data including a call address to be used by said operator's server when executing said service.

30 6. A telecommunications system as claimed in claim 5, characterised in that

said service description data includes one, or more, of the following data items:

- a page address to a page containing information on said service;
- a name for said service; and
- a user interface.

7. A telecommunications system as claimed in claim 6, characterised in that said user interface facilitates selection of parameters to be set when a service is executed.

8. A telecommunications system as claimed in either claim 6, or claim 7 characterised in that said user interface is adapted to enable said operator's server to transmit information, defining input data required when a service is executed, to a mobile transceiver.

9. A telecommunications system as claimed in any previous claim, characterised in that, on receipt of information from a service provider's server relating to a new value added service, said operator's server assigns a unique identity to said new service.

10. A telecommunications system as claimed in claim 9, characterised in that said operator's server is adapted to store, in said service database, service description data transmitted by a service provider's server, on registration of a new value added service.

11. A telecommunications system as claimed in any of claims 2 to 10, characterised in that said operator's server is adapted to extract and compile parameter settings, made by a subscriber when personalising a value added service, and in that said operator's server is adapted to store said settings in said database of services personalised by a subscriber.

12. A telecommunications system as claimed in claim 11, characterised in that

said operator's server is adapted to receive the parameter settings made by a subscriber from a subscriber's PC.

5 13. A telecommunications system as claimed in any of claims 2 to 12, characterised in that said operator's server is adapted to receive data defining subscriber customised menus and menu structures, and store said menus and menu structures on said database of services personalised by a subscriber, and in that, on request for a service from a subscriber, said operator's server is adapted to download menus and menu structures specific to said subscriber and said service.

10 14. A telecommunications system as claimed in any of claims 2 to 10, characterised in that said operator's server is adapted, on receipt of a call from a subscriber requesting a service, to request said subscriber to supply parameters required by said service and not previously stored on said database of services personalised by a subscriber.

15 15. A telecommunications system as claimed in any of claims 2 to 10, characterised in that said operator's server is adapted to use a service menu's identity, on receipt thereof, as a search word for searching said database of services personalised by a subscriber and extracting, therefrom, a service identity and parameters for that service previously set by a subscriber.

20 16. A telecommunications system as claimed in claim 15, characterised in that said operator's server is adapted to use said service identity to retrieve an address for said service from said service database and make a service call to said address for service containing values for service parameters held in said storage means together with values of service parameters entered by a subscriber on a mobile transceiver's keypad.

25 30 17. A telecommunications system as claimed in any previous claim, characterised in that said operator's server is adapted to distribute service menus via a cell broadcast so that services relating to a mobile transceiver's position can be offered.

18. A telecommunications system as claimed in any previous claim, characterised in that all requests for value added services made to said operator's server cause said service database to be accessed, thereby providing a basis for charging for provision of said value added services.

19. A telecommunications service platform for the provision of value added services to mobile transceivers suitable for use with a telecommunications system as claimed in any of claims 1 to 18, characterised in that there is provided a telecommunications operator's server adapted to operate connections to:

- a plurality of mobile transceivers;
- at least one service provider's server;
- a data storage means; and
- a plurality of subscriber's PCs;

and in that said storage means contains a service data base and a database of services personalised by subscribers.

20. A subscriber's PC, characterised in that said PC is adapted to operate within a telecommunications system as claimed in any of claims 1 to 18 and adapted to personalise services offered by said telecommunications system.

21. A mobile transceiver, characterised in that said mobile transceiver is adapted to operate with a telecommunications system as claimed in of claims 1 to 18.

22. A method of operating a telecommunications system providing value added services to mobile telephony subscribers, said telecommunications system comprising a telecommunications operator's server, a plurality of mobile transceivers, at least one service provider's server and data storage means,

characterised by said system also including a plurality of subscriber's PCs individually communicating with said operator's server, by said at least one service provider's server individually communicating with said operator's server, by said plurality of mobile transceivers individually communicating with said operator's server, and by said storage means having a service data base.

23. A method as claimed in claim 22, characterised by storing data relating to subscriber personalised services in said storage means as a database of services personalised by subscribers.

24. A method as claimed in either claim 22, or claim 23, characterised by said plurality of PCs individually communicating with said operator's server over the Internet.

25. A method as claimed in any of claims 22 to 24, characterised by said plurality of service provider's servers individually communicating with said operator's server.

26. A method as claimed in any claims 22 to 24, characterised by a service provider's server, offering a new value added service, registering that service with said operator's server by transmitting service description data, describing that service, to said operator's server, said service description data including a call address to be used by said operator's server when executing said service.

27. A method as claimed in claim 26, characterised by said service description data including one, or more, of the following data items:

- a page address to a page containing information on said service;
- a name for said service; and
- a user interface.

28. A method as claimed in claim 27, characterised by said user interface

facilitating selection of parameters to be set when a service is executed.

29. A method as claimed in either claim 27, or claim 28, characterised by said user interface enabling said operator's server to transmit information, on input data required when a service is executed, to a mobile transceiver.

30. A method as claimed in any of claims 22 to 24, characterised by, on receipt of information from a service provider's server relating to a new value added service, said operator's server assigning a unique identity to said new service.

31. A method as claimed in claim 30, characterised by storing service description data transmitted by a service provider's server, on registration of a new value added service, in said service database.

32. A method as claimed in any of claims 23 to 31, characterised by said operator's server extracting and compiling parameter settings made by a subscriber when personalising a value added service and by storing said settings in said database of services personalised by a subscriber.

33. A method as claimed in claim 32, characterised by transmitting parameter settings made by a subscriber to said operator's server from a subscriber's PC.

34. A method as claimed in any of claims 23 to 33, characterised by said operator's server receiving data defining subscriber customised menus and menu structures, storing said menus and menu structures on said database of services personalised by a subscriber, and by, on request for a service from a subscriber, said operator's server downloading menus and menu structures specific to said subscriber and said service.

35. A method as claimed in any of claims 23 to 31, characterised by said operator's server, on receipt of a call from a subscriber requesting a service, requesting said subscriber to supply parameters required by said service and not previously stored on said database of services personalised by a subscriber.

5 36. A method as claimed in any of claims 23 to 31, characterised by said operator's server using a service menu's identity, on receipt thereof, as a search word for searching said database of services personalised by a subscriber and extracting, therefrom, a service identity and parameters for that service previously set by a subscriber.

10 37. A method as claimed in claim 36, characterised by said operator's server using said service identity to retrieve an address for said service from said service database, and by making a service call to said address for service, said service call containing values for service parameters held in said storage means together with values of service parameters entered by a subscriber on a mobile transceiver's keypad.

15 38. A method as claimed in any of claims 22 to 38, characterised by said operator's server distributing service menus via a cell broadcast so that services relating to a mobile transceiver's position can be offered.

20 39. A method as claimed in any of claims 22 to 24, characterised by all requests for value added services made to said operator's server causing said service database to be accessed, thereby providing a basis for charging for provision of said value added services.

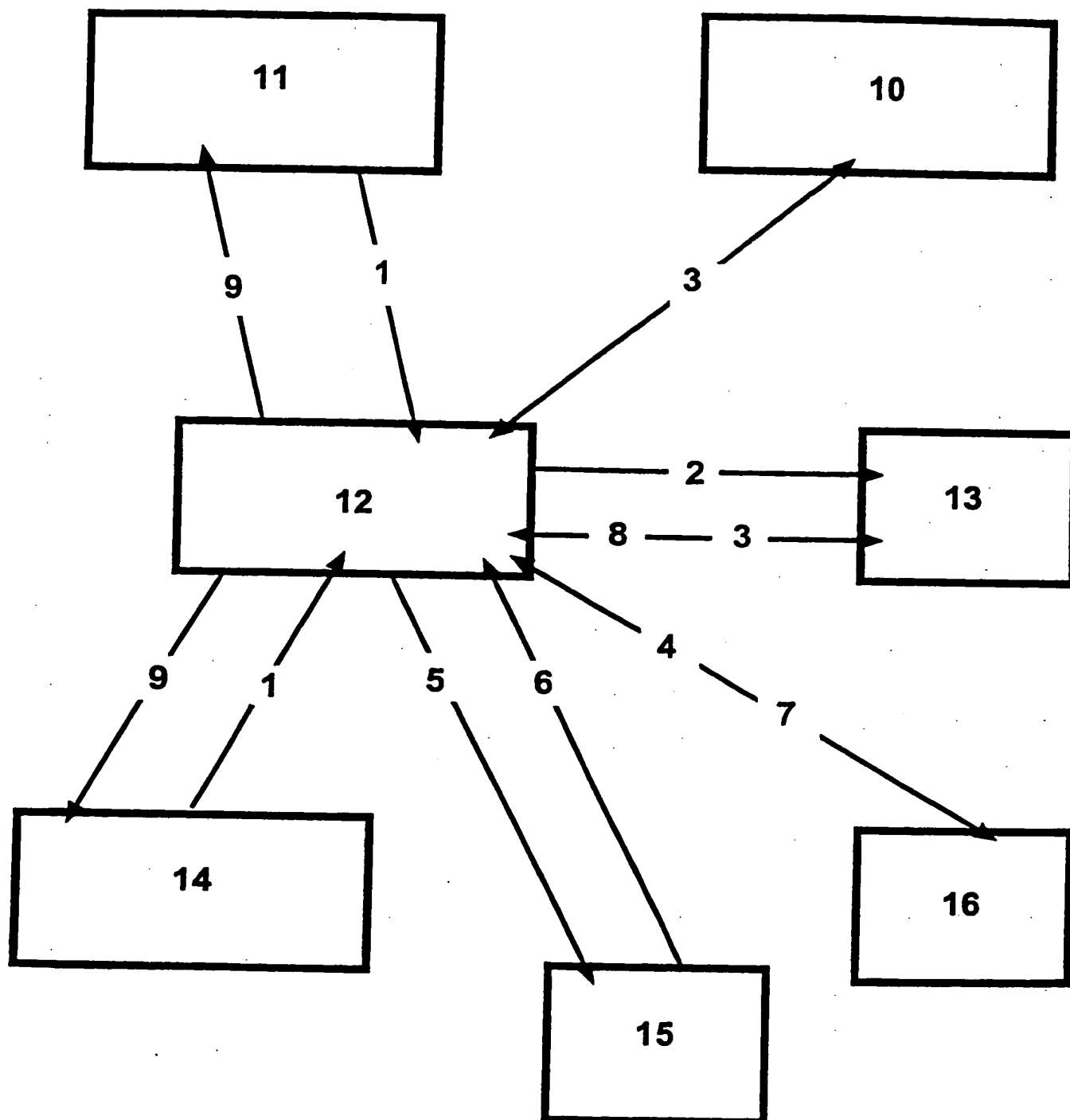


FIGURE 1

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 00/00748

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04M 3/142, H04Q 7/38

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H04M, H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9744943 A1 (TELECOM FINLAND OY), 27 November 1997 (27.11.97), page 4, line 35 - page 6, line 14 --	1-4,11-15, 19-25,32-36
A	WO 9837688 A2 (HEWLETT-PACKARD COMPANY), 27 August 1998 (27.08.98), page 13, line 5 - line 31; page 35, line 11 - line 20; page 37, line 19 - line 26 --	1,19-22
A	WO 9750263 A1 (TELIA AB), 31 December 1997 (31.12.97), abstract --	1,19-22

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search

27 July 2000

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 00/00748

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 9803005 A1 (EUROPOLITAN AB), 22 January 1998 (22.01.98), abstract</p> <p style="text-align: center;">-- -----</p>	1,19-22

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/SE 00/00748

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9744943 A1	27/11/97	AU 2900297 A	09/12/97
		CN 1225773 A	11/08/99
		EP 0895687 A	10/02/99
		FI 962146 D	00/00/00
		FI 964200 A	22/11/97
WO 9837688 A2	27/08/98	WO 9837685 A	27/08/98
WO 9750263 A1	31/12/97	EP 0906708 A	07/04/99
		NO 985950 A	24/02/99
		SE 9602527 A	27/12/97
WO 9803005 A1	22/01/98	AU 3712197 A	09/02/98
		EP 0909505 A	21/04/99
		NO 990102 A	11/03/99
		SE 506976 C	09/03/98
		SE 9602765 A	13/01/98